MIKHALEV, I. A.

"On the Theory of Accurate Gyroverticals Having a Device for Compensating High Speed Deviations," by I. A. Mikhalev, Elementy Rascheta Tochnykh Priborov (Elements of the Analysis of Precision Instruments), Oborongiz, Moscow, 1954, pp 97-111 (from Referativnyy Zhurnal -- Mekhanika, No 12, Dec 56, Abstract No 8019)

"The author presents a schematic of a gyrovertical having a device for compensating high speed deviations; a brief description is included.

"The author derives equations for the motion of the instrument and investigates them for the case when the gyrovertical supports are displaced along the surface of the earth at constant velocity; he proves that the gyrovertical will undergo no velocity deviations."

Sum 1258

BODNER, Vasiliy Afanas'yevich, prof., doktor tekhn. nauk; KOZLOV, Mikhail Stepanovich; PATROV, B.N., akademik, retsenzent; IZVOL'SKIY, Ye.G , kand. tekhn. nauk, dotsent, retsenzent; MIKHALEV, I.A., kand. tekhn. nauk, retsenzent; SUVOROVA, I.A., red. izd-va; PUKHLIKOVA, N.A., tekhn. red.

[Automatic pilots and the stabilization of aircraft] Stabilizatsiia letatel'nykh apparatov i avtopiloty. Pod red. V.A.Bodnera. Moskva, Gos.nauchno-tekhn.izd-vo Oborongiz, 1961. 508 p. (MIRA 14:12) (Automatic pilot (Airplanes)) (Stability of airplanes)

MIKHAIEV, I.D.

Method for an iodine test. Lab. delo 6 no.4:28-29 Jl-Ag '60.
(MIRA 13:12)

1. Kafedra gospital'noy terapii (zav. - dotsent V.Ye.Bogdanov) Kubanskogo meditsinskogo instituta (dir. - prof. V.K.Supruhov).
(IODINE)

PEL'POR, Dmitriy Sergeyevich. Prinimali uchastiye: KOLOSOV, V.A., kand. tekhn. nauk; SUMAROKOV, N.F., aspirant; SHLINSKIY, A.Yu., akademik, retsenzent; MIKHALEV, I.A., kand. tekhn. nauk, prof., nauchn. red.; SUVOROVA, I.A., red.

[Theory of giroscopic stabilizers] Teoriia giroskopicheskikh stabilizatorov. Moskva, Mashinostroenie, 1965. 347 p. (MIRA 18:12)

MIKHALEV, I. I.

Skleivanie iz esnykh materialov v samoletostroenii. Moskva, Oborongiz, 1944. Title tr.: Gluing of wooden materials in aircraft construction.

F

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

MIKHALEV, I.I.

5(3); 25(2) PHASE I BOOK EXPLOITATION SOV/2884

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F.E. Dzerzhinskogo

Plastmassy v mashinostroyenii (Plastics in Machine Building) Moscow, Mashgiz, 1959. 236 p. Errata slip inserted. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (Title page): V.K. Zavgorodniy; Ed. (Inside book): B.M. Sotkin, Engineer; Ed. of Publishing House: O.M. Konovalov; Tech. Ed.: A. F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Making (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This collection of articles is intended for engineers and technicians in the machine-building industry.

COVERAGE: This collection reviews the progress made by the Soviet Union in the field of manufacturing new plastic materials and fabricating different plastic-material articles for use in the machine-building industry. Physicomechanical and dielectric properties of phenolite, decorrosite, fluoroplastics, epoxy resins, polyamides, laminated plastics, and fiberglass plastics are analyzed and their use in machine building described. Characteristics and composition of adhesives and bonding agents are given and the technology of the pressing process described. Methods of coating with plastics as a protection against corrosion are explained, and metallization of plastics achieved by vacuum evaporation is reviewed, as well as equipment used for manufacturing and fabricating plastics and articles made of plastics. Mechanization of certain operations and automatic control of various processes are discussed. No personalities are mentioned. References accompany individual articles.

AVAILABLE: Library of Congress

Card 1/1

TM/gmp
1-19-60

S/122/60/000/005/009/017
A161/A130

15.4100

AUTHORS: Miknaley, [illegible], Ye. M. - Engineers, Shiznkova, L. A.

TITLE: Heat-resistant BC-2T VS-10T glue for joining friction linings on brake shoes

PERIODICAL: Vestnik mashinostroyeniya, no. 5, 1960, 40-42

TEXT: Information on a new glue, VS-10T developed by M. V. Sokolevskiy, Z. G. Ivanova, et al., is given. It is the best of all that had been tried as replacement for nonferrous rivets used for attaching friction linings to automobile brake shoes. The glue consists of a single component and can be stored for 6 months. The recommended gluing procedure is the following: spread in a single layer on both metal surfaces in quantity corresponding to 200-250 g/m^2, held open in air for not less than 15 min at 20°C or 5 min at 60-65°, then joined and held under pressure for 40 min at 180°. Linings so joined were tested on the brake shoes of the "Moskvich" car. The surface of the linings was ground, and that of the brake shoes zinc plated. The average shear strength of glued linings was 3,030 kg, comparing to only 1,660 kg of riveted. Glue-attached linings were also tested at NAMI on an inertia stand at 250° and 90 km/h.

Card 1/2

S/122/60/000/005/009/017
A161/A130

Heat-resistant BC-.5T .V5-.5T g.ue ...

velocity and on a high number of cars. The service life of glued linings was 50-60% longer than of riveted, and no traces on the brake drums were left by the linings. There are 3 figures and 2 tables

Card 2/2

S/520/62/000/000/013/002
D040/D112

AUTHOR: Mikhalev, I.I.

TITLE: The application of glues for glueing metals and nonmetallic structural materials

SOURCE: Primeneniye polimernykh materialov v mashinostroyenii. Moskovskiy dom nauchno-tekhnicheskoy propagandy imeni F.E. Dzerzhinskogo. Moscow, Mashgiz, 1962, 96-118

TEXT: The use of glues in machinebuilding is advocated and general information on some Soviet glues and their properties is given along with detailed technological recommendations. The following glues are recommended for metals and for joining metals with textolite, glass-base textolite, etc.: МПФ-1 (MPF-1), a single-component methylol-polyamide-phenol glue; ПУ-2 (PU-2), a polyurethane glue; ВК-3 (VK-3), ВК-4 (VK-4) and ВК-32-200 (VK-32-200) phenol rubber glues; БФ-2 (BF-2) and БФ-4 (BF-4) single-component phenol-polyvinyl-acetal glues; the ВС-10Т (VS-10T), ВС-350 (VS-350) and ВК-2 (VK-2) phenol-polyvinyl-acetal glues with various silicones and other stabilizing additives;

Card 1/2

S/820/62/000/000/001/002
D040/D112

The application of glues .....

BK -32-2M (VK-32-2M), BK -1 (VK-1) and K -153 (K-153) epoxy glues. The re-commendations concern the application fields for different glue grades; shapes of joints; degreasing and cleaning of surfaces prior to glueing; anodizing and pickling; work temperatures; glue spreading methods; application of pressure, holding time under pressure and seasoning; work clothing and work safety. There are 8 figures and 3 tables. [Abstracter's note: The chemical composition of the recommended glues is not specified] .

Card 2/2

L 10417-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/EWP(h)/EWP(h)/EWP(l)
ACC NR: AM5023882 EWA(c) BOOK EXPLOITATION UR
JD/WW/HW/EM/RM

Mikhalev, Ivan Ivanovich; Kolobova, Zoya Nikolayevna; Batizat, Viktor Panteleyevich

Technology of the bonding [cementing] of metals (Tekhnologiya skleivaniya metallov) 1965, 278 p. illus., biblio., Errata slip inserted. 9,550 copies printed.

TOPIC TAGS: adhesive, alloy, steel, bonding material, foam plastic synthetic material

PURPOSE AND COVERAGE: This monograph discusses the technology of bonding various metals to themselves and also to nonmetallic construction materials. Special features involved in devising the methods (a course of action) for the formation of adhesive joints, and the advisability of their use are considered. Principal attention is paid to the selection, preparation, application, heating, and also to the quality control of the starting material and of the resulting joints. The book is intended for the mechanical engineer.

TABLE OF CONTENTS [abridged]:

UDC:621.792

Card 1/2

L 10417-66

ACC NR: AM5023882

3

SUBMITTED: 15Apr65 SUB CODE: MT, MM NO REF SOV: 042

OTHER: 034

glued joints

OC

Card 2/2

ACC NR: AP6029038 (A) SOURCE CODE: UR/0413/66/000/014/0055/0055

INVENTORS: Mikhalev, I. I.; Novikov, A. N.; Bogdanov, A. S.; Kostyrev, V. A.; Mikhaylova, M. P.

ORG: none

TITLE: A method for producing an elastic heat-resisting glued joint in metals and in nonmetallic construction materials. Class 22, No. 183858

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 55

TOPIC TAGS: metal gluing, glue welding, glue, construction material, rubber

ABSTRACT: This Author Certificate presents a method for producing elastic heat-resisting glued joints in metals and in nonmetallic construction materials, with pressure applied in the course of gluing, and with the use of two different heat-resisting glues. To insure the elasticity of a glued joint under low gluing pressure, a mixture of two types of glues is used. One of the glues is characterized by low viscosity and frangibility (for instance, phenol polyvinylacetal), while the lower layer is made of an elastic glue (such as phenolic rubber).

SUB CODE: 13, 11/ SUBM DATE: 27Jan65

Card 1/1 UDC: 621.792.4.05

MIKHALEV, I.P.; ZVOLINSKAYA, V.V.; KUROCHKIN, P.D.

Casting and stand testing of cerium cast iron crankshafts. Lit. proizv. no.9:40-41 S '64. (MIRA 18:10)

8(6), 14(6) SOV/112-59-5-8647

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 36 (USSR)

AUTHOR: Mikhalev, M. A.

TITLE: Hydraulics of a Stream Thrown Off the Cantilever-Type Drop

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1958, Nr 1-2, pp 88-94

ABSTRACT: Experiments were staged at the Channel Laboratory, LPI imeni Kalinin, with the purpose of investigating the depth of the downstream-bed scour. Effect of a stream thrown off the cantilever on the scour of a bottom composed of various-size material was studied, as well as the process of the stream spreading out over the hard craters which simulated the dynamically-stable downstream scoured bottom. Stream velocities were measured by filming the motion of bitumenous balls which had a unity specific weight. Some principles are presented of the theory of spreading of a free submerged stream, particularly the stream thrown off a cantilever. The experimental outfit and

Card 1/2

SOV/112-59-5-8647

Hydraulics of a Stream Thrown Off the Cantilever-Type Drop

methods are described. The pattern of the stream spreading in a scour crater and the velocity values have been found. It has been established that the axial velocity decreases quicker than, and the initial length is much shorter than, and the stream boundaries are the same as in the case of a submerged air stream. Bibliography: 8 items.

I.I.O.

Card 2/2

MIKHAILEV, M.A., aspirant

Local [illegible] problem below [illegible] installations with [illegible] projects. [illegible] abstr.: stroi. no.3: [illegible] '57.
(MIRA 10:7)

1. Rabotnik [illegible] laboratorii inzhenernoy gidrologii Leningradskogo politekhnicheskogo instituta imeni M.I. Kalinina.
(Hydraulics)

MIKHALEV, M. A., Cand Tech Sci (diss) -- "The use of rotary-blade turbines for high water pressures". Leningrad, 1960. 14 pp (Min Higher and Inter Spec Edc RSFSR, Leningrad Polytech Inst im M. I. Kalinin), 150 copies (KL, No 11, 1960, 122)

MIKHALEV, M.A., inzh.

Determining the erosion depth of earth foundations caused by a failing jet. Gidr. stroi. 30 no.9:46-49 S '60. (MIRA 13:9)

(Spillways)

S/124/62/000/005/030/048
D251/D308

262150

AUTHOR: Mikhalev, M.A.

TITLE: A device for measuring pulsations of velocity with the application of a wire transformer

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 5, 1962, 133, abstract 5B668 (V. sb. Novyye metody izmereniy i pribory dlya gidravlich. issled. M., AN SSSR, 1961, 80-84)

TEXT: A description is given of the principle of action and the construction of a device for measuring pulsations of velocity using a wire transformer. On an elastic plate, fixed by one end, are glued two wire transformers. The free end of the plate is rigidly joined to a rod, to the end of which is fixed a spherical measuring head (d = 3 mm). The support of the sphere is protected from perturbances of the flowing current by a cowl. The level of the water in the cowl with the aid of the reduced pressure in the upper part of the cowl is maintained in such a way that the rod with the sphere on the end is always situated entirely in the water. A construction is described and a scheme is propounded for a more sensitive device

Card 1/2

S/124/62/000/005/030/048
D251/D308

A device for measuring pulsations ...

with four wire transformers included in a bridge-scheme, with which the diagonal current through the amplifier is given on the oscillograph. The natural frequency of the device is 80 cycles/sec. The calibration of the device is carried out with a Pito tube in a stream of water discharged from a submerged circular orifice. [Abstractor's note: Complete translation].

Card 2/2

MIKHAILEV, M. A., kand. tekhn. nauk

Calculation of well-type water energy dampers. Izv vys uchebn zav; energ 7 no. 1:91-97 Ja '64. (MIRA 17:5)

1. Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina. Predstavlena kafedroy inzhenernoy gidrologii.

L 11238-66 EWT(1)/EWP(m)/EWA(d)/ETC(m)-6/EWA(1) WW

ACC NR: AP5024898 UR/0382/65/000/003/0041/0043

AUTHOR: Levi, I.I.; Mikhalev, M.A.

ORG: None

TITLE: Approximate method for the calculation of flow in the region of sudden widening in the presence of a magnetic field

SOURCE: Magnitnaya gidrodinamika, no. 3, 1965, 41-43

TOPIC TAGS: magnetohydrodynamic theory, magnetohydrodynamic jet

ABSTRACT: The problem of sudden expansion of flow in the presence of a magnetic field is solved by combining the method of integral relationship with certain simplifying assumptions, including the existence of a universal velocity profile. The basic system of equations is given by (1) and (2). In the symmetrical case, the maximum velocity, $\bar{u}$, is given by the solution (4) of the equation (3):

$$u\frac{\partial u}{\partial x}+v\frac{\partial u}{\partial y}=-\frac{1}{\rho}\frac{\partial p}{\partial x}+\nu\frac{\partial^2 u}{\partial y^2}-\frac{\sigma}{\rho}B_y^2(u-u_0) \quad (1)$$

$$\partial u/\partial x+\partial v/\partial y=0 \quad (2)$$

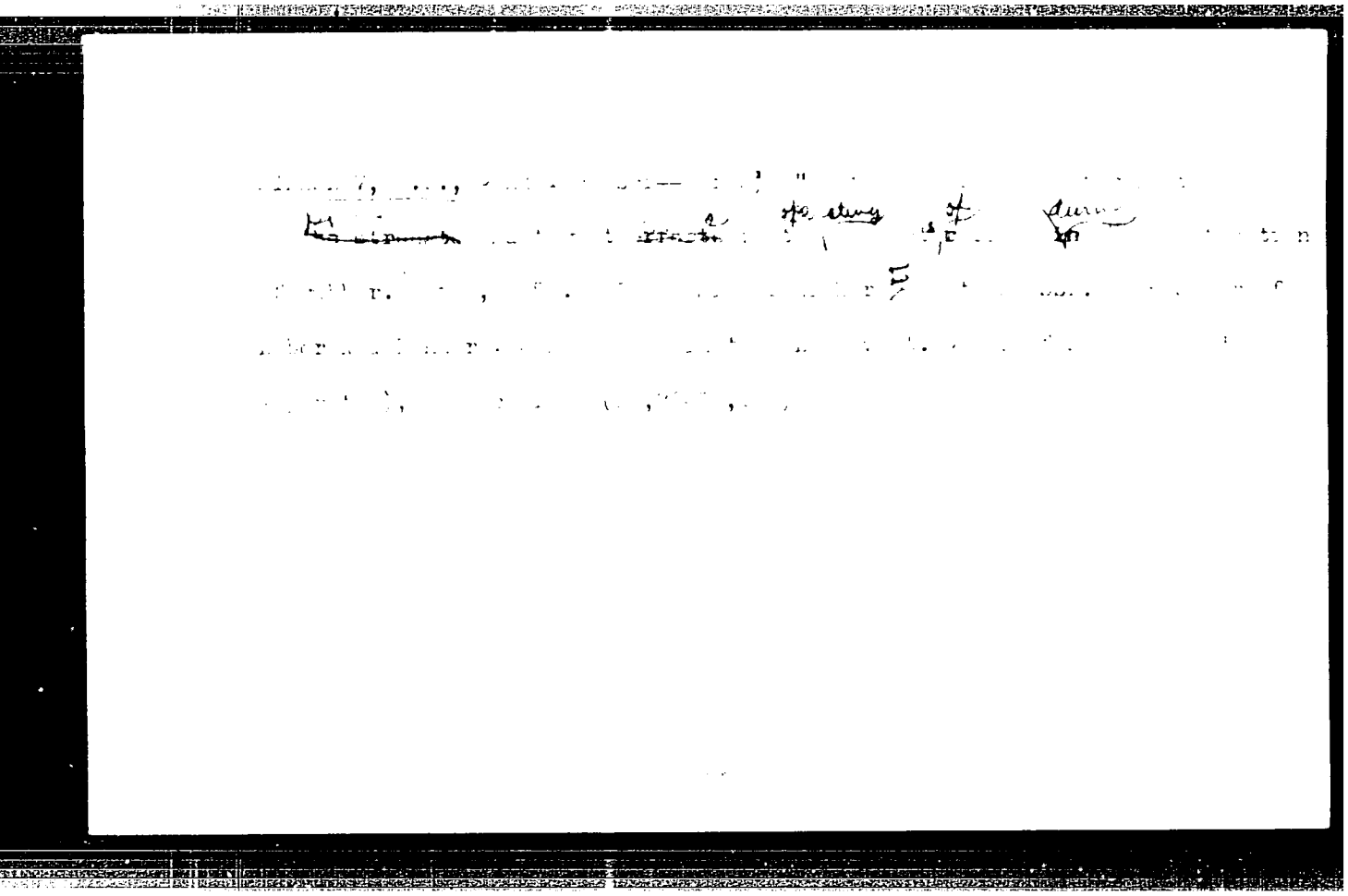
$$b\frac{d\bar{u}}{dx}A(\eta)+b\bar{u}\frac{d\bar{u}}{dx}C(\eta)+\bar{u}\frac{db}{dx}D(\eta)+\bar{u}^2\frac{db}{dx}F(\eta)=\lambda(\eta)\bar{u}, \quad (3)$$

$$\ln\bar{u}A(\eta)+\bar{u}C(\eta)=x\lambda(\eta)/b+\text{const}, \quad (4)$$

A similar solution if found for the unsymmetrical flow case. Orig. art. has 11 formls.

SUB CODE: 20 SUBM DATE: 01Mar65/ ORIG REF: 004

Card 1/1 UDC 538.4



KOZULIN, N.A., doktor tekhn.nauk, prof.; MIKHEYEV, M.P., [illegible] .nauk

Determining the form of rolls in [illegible] .
Khim.mash. no.1:26-28 Ja '51. (MLRA 12:7)
(Rubber machinery)

TAGANOV, N.I., kand. tekhn. nauk; MIKHALEV, M.F., kand. tekhn. nauk

Expansion stresses of rollers as a function of the softness and of the recovery of rubbers during their plasticization. Khim. mash. no.5:10-11 S-O '59. (MIRA 13:2)
(Rubber--Testing)

MUKHLENOV, I.P.; TRABER, D.G.; MIKHALEV, M.F.; SHMEKKER, Ya.M.

Oxidation of sulfur dioxide in an apparatus with a fluidized catalyst bed. Khim.prom. no.1:42-46 Ja '61. (MIRA 14:1)

1. Leningradskiy technologicheskiy institut imeni Lensoveta i zavod "Krasnyy Khimik."

(Sulfur dioxide) (Fluidization)
(Oxidation)

MIKHALEV, M.F., kand.tekhn.nauk; MURZIN, A.R., inzh.

Nomogram for designing pipelines. Teploenergetika 8 no.6:91-92 Je '61. (MIRA 14:10)

(Pipelines)

MUKHLENOV, I.P.; TRABER, D.G.; SARKITS, V.B.; RUMYANTSEVA, Ye.S.; MIKHALEV, M.F.; SHMEKKER, Ya.M.; CHERNYAK, M.A.

Testing an apparatus for the oxidation of concentrated sulfur sioxide in a fluidized catalyst bed. Khim.prom. no.11:770-775 N '61. (MIRA 15:1)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta, i Leningradskiy zavod "Krasnyy khimik".
(Chemical apparatus) (Sulfur dioxide)
(Catalysis)

MIKHALEV, M.F.; KUSOV, A.B.

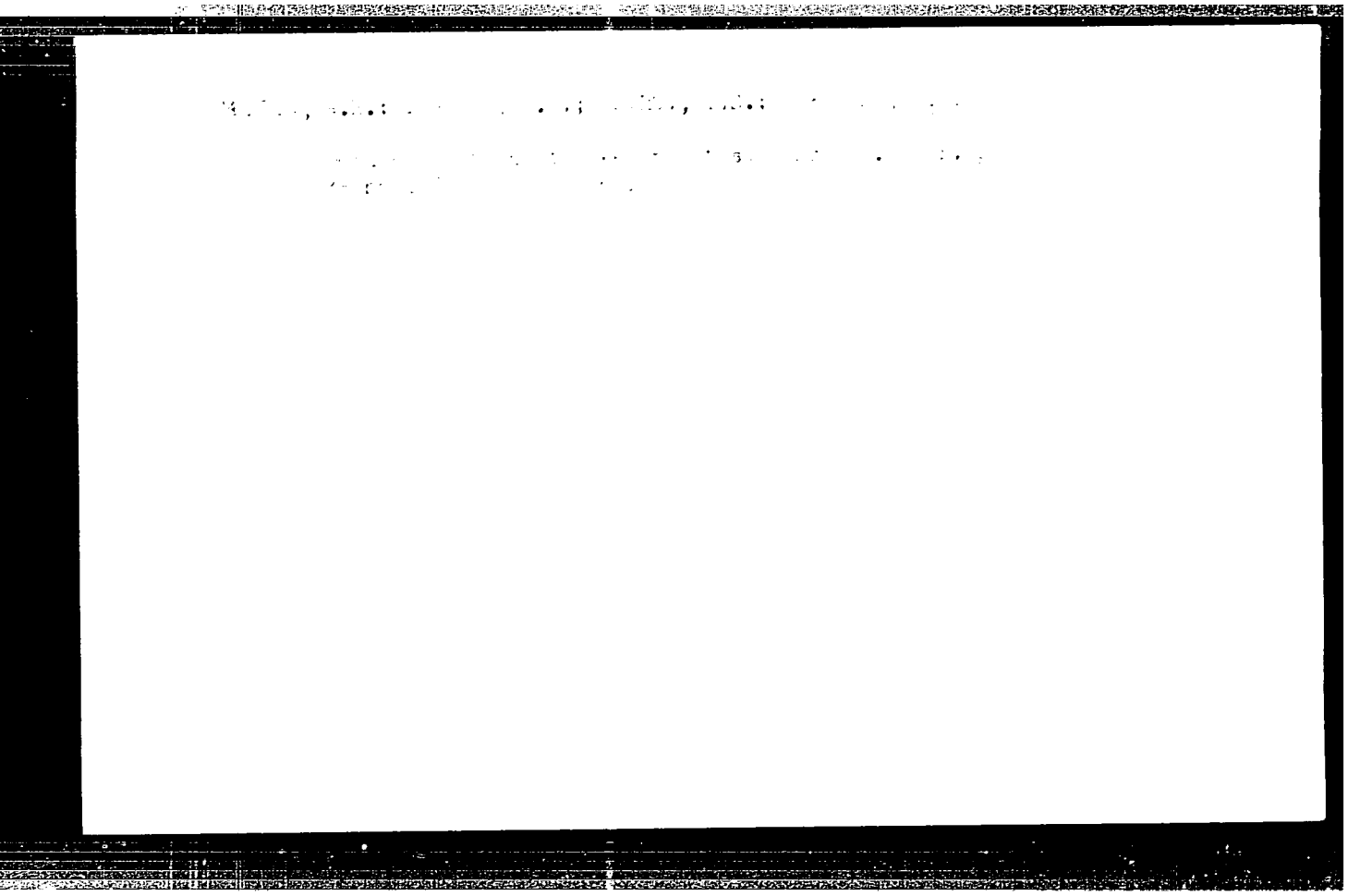
Plasticization of rubber by single passes between rolls. Kauch. i rez. 20 no. 4:34-36 Ap '61. (MIRA 14:5)

1. Leningradskiy khimiko-tekhnologicheskiy institut imeni Lensoveta.
(Rubber, Synthetic—Testing)

MUKHLENOV, I.P.; ROZOVA, T.N.; MIKHALEV, M.F.

Burning of molten sulfur in a fluid bed. Zhur.prikl.khim. 35 no.7:1511-1516 Jl '62. (MIRA 15:8)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Sulfur) (Combustion)



POPOV, A.A.; MIKHALEV, M.S.

Microstructural appearance of the decarbonization zone of steel alloys. Zav.lab. 21 no.4:447-449 '55 (MLRA 8:6)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Steel alloys--Metallography)(Cementation(Metallurgy))

137-58-6-13415

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 324 (USSR)

AUTHORS: Gol'dshteyn, M. I., Mikhalev, M. S.

TITLE: New Types of Low-alloy Steels (Novyye marki nizkolegirovannykh staley)

PERIODICAL: Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chernykh metallov, 1957, Nr 3, pp 64-75

ABSTRACT: Studies were carried out in order to investigate the effect of Mn, Cr, V, and Ti on the mechanical properties of low-carbon steel, as well as on the properties of low-alloy Mn-V and Cr-Mn steels. It is established that the σ_t, σ_s and τ_1 values of low-carbon steel are increased if Mn, Cr, V, and Ti are present in amounts of up to 1.2, 1.3, 0.12, and 0.05%, respectivdy, while the ψ, δ, and a_k values are changed only slightly at room temperature. The strength of steel is a linear function of the content of elements indicated, the slope of the line representing the degree of strength increase due to a given element. According to the order of their strengthening effect, the elements can be arranged as follows: Ti, V, C, Mn, Cu, and Cr. The following formula is proposed for an approximate computation of

Card 1/2

137-58-6-13415

New Types of Low-alloy Steels

the σ_s value of steel alloyed with the elements indicated and containing 0.4% Si, exactly (*) 0.3% Ni, *0.04% P, *0.04% S: σ_s = 18+28% C+9% Mn+2% Cr+36% V+77% Ti+6% Cu. Two types of low-alloy steels are proposed: 15GF and 15 KhGT. Their chemical compositions are as follows: 15GF: 0.11-0.17% C, 0.9-1.2% Mn, 0.17-0.37% Si, *0.3% Cr, *0.3% Ni, *0.3% Cu, 0.08-0.14% V, *0.04% P, *0.4% S; 15KhGT: 0.11-0.17% C, 0.7-1.00% Mn, 0.17-0.37% Si, 0.5-0.8% Cr, *0.3% Ni, *0.3% Cu, 0.04-0.08% Ti, *0.04% P, *0.4% S. Steels 15GF and 15 KhGT exhibit sufficiently good mechanical properties, are readily manufactured and welded, and may be employed in welded structures, particularly in manufacture of railroad cars, in place of standard carbon steels.

1 Steel--Development 2. Steel--Mechanical properties 3. Steel --Applications

I. B.

Card 2/2

147-58-6-13408

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 323 (USSR)

AUTHORS: Mikhalev, M. S., Gol'dshteyn, M. I.

TITLE: The Effect of Aluminum on Properties of Low-alloy Steel With Elevated Phosphorus Content (Vliyaniye alyuminiya na svoystva nizkolegirovannoy stali s povyshennym soderzhaniyem fosfora)

PERIODICAL: Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chernykh metallov, 1957, Nr 3, pp 76-79

ABSTRACT: Despite their good anti-corrosion and strength characteristics, steels with a high P content are not widely employed in the USSR owing to the unstable properties of different individual steel smeltings and, in particular, decreased a_k values and increased susceptibility to aging. An addition of Al eliminates all these drawbacks. The investigations have demonstrated that an Al content of 0.1% is optimal for purposes of neutralization of the harmful effects of P since at that composition a fine-grained (grade 8) structure is achieved, while the contamination of steel with non-metallic inclusions remains small. 1. Steel--Properties 2. Phosphorus--Metallurgical effects 3. Aluminum--Metallurgical effects

Card 1/1 I. B.

AUTHORS: Mikhalev, M.S. and Gol'dshteyn, M.I., Engineers SOV/133-58-10-24/31

TITLE: The Influence of Alloying Elements and Calculation of Strength of Low-alloy Steels (Vliyaniye legiruyushchikh elementov i raschet prochnosti nizkolegirovannykh staley)

PERIODICAL: Stal', 1958, Nr 10, pp 942 - 946 (USSR)

ABSTRACT: The influence of alloying elements (Mn, Si, Cr, Ni, Cu, P, V and Ti) individually and in combination, on the strength properties of low-carbon steels was investigated. In addition, the influence of carbon in the properties of technical and alloyed iron was studied. Experimental steels were smelted in a 300 kg high-frequency basic furnace from low-carbon steel with a low content of other admixtures. Each heat was tapped into a few ladles to which a given amount of the studied elements was introduced. Steel was finely deoxidised with aluminium in the ladle (0.5 kg/t) and teemed into 16-kg ingots. Ingots were forged into plates 20 mm thick and normalised from 920 °C. Specimens for testing were cut from the middle of plates. From the experimental results (mean for 3 specimens) for each element a graph was made in co-ordinates: tensile strength, yield point - content of the element (Figures 1 and 3). As the

Card1/4

The Influence of Alloying Element and Calculation of Strength of Low-alloy Steels

relationships obtained were nearly linear, the degree of strengthening of metal by alloying elements could be evaluated by a conditional strengthening coefficient (tangent of the straight line with the abscissa). The coefficients calculated on the basis of experimental and literature data are compared in Figures 2 and 4. On the basis of analysis of the above data, the following conclusions can be formed: a) all elements studied can be divided into two series according to decreasing degree of strengthening they impart to steel: yield point Ti, P, V, C, Mn, Cu, Si, Cr and Ni; tensile strength C, Ti, P, V, Si, Mn, Cr, Cu and Ni; b) the dependence of strength indices of steels on the content of the above elements within the range studied, can be presented by a straight line; c) the values for strengthening coefficients by each of the investigated elements for low-carbon and low-alloy two-four component steels are comparatively close, indicating the additivity of the influence of elements in various steels. Therefore, using the strengthening coefficients of each element, an approximate value for

The Influence of Alloying Elements and Calculation of Strength of Low-alloy Steels

tensile strength and yield point (kg/mm^2) can be calculated from the following formulae:

$$\sigma_s = 12.4 + 28C + 8.4Mn + 5.6Si + 5.5Cr + 4.5Ni + 8Cu + 36V + 77Ti + 55P + [3.0 - 0.2(h - 5)]$$

$$\sigma_B = 23.0 + 70C + 8Mn + 9.2Si + 7.4Cr + 3.4Ni + 5.7Cu + 32V + 54Ti + 46P + [2.1 - 0.14(h - 5)]$$

where numbers in front of the symbols of elements are mean values of strengthening coefficients (Figure 2,4) and the symbol of each element represents its concentration in steel, %; the last polynomial represents a correction for the thickness of an article h (mm). The above formulae can be used for calculating approximate strength of hot-rolled or normalised two-four component low-alloy plate steels (5-20 mm thick) providing the content of the alloying elements does not exceed %. C 0.2, Mn 1.6, Si, 1.0, Cr 1.3 Ni 1.0, Cu 0.8, V 0.15, Ti 0.05 and P 0.15.

The Influence of Alloying Elements and Calculation of Strength of Low-alloy Steels SOV/13-58-10-24/31

The validity of the formulae was checked on 70 various steels; in 50% of the cases, the absolute error did not exceed $\pm$ 1 kg/mm^2 and in 70% of the cases $\pm$ 2 kg/mm^2. In the editorial note, a request is made to readers to publish appropriate material in order to check the proposed method of calculating strength of steel on the basis of its chemical composition.
There are 4 figures and 9 references, 6 of which are Soviet, 2 English and 1 German.

ASSOCIATION: Ural'skiy n.-i. institut chernykh metallov
(Ural'skiy Scientific Research Institute for Ferrous Metals)

Card 4/4

S/137/60/000/011/039/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 11, p. 260, # 27322

AUTHOR: Mikhalev, M.S.

TITLE: Mechanical and Casting Properties of Some Low-Carbon Low-Alloy Steel Grades

PERIODICAL: Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chern. metallov, 1959, No. 6, pp. 80 - 83

TEXT: An investigation was made of the mechanical properties (σ_b, σ_s, δ, ψ) and a_k at +20 to -80°C, and casting properties (fluidity, shrinkage and crack sensitivity) of 10 melts of steel produced in a 300-kg high-frequency furnace. The steel contained (in %): C 0.16 - 0.26; Mn 0.70 - 1.64; Si 0.22 - 0.70; Cr 0.13 - 0.70; Ni 0.08 - 0.15; Cu 0.12 - 0.72; V 0 - 0.15; Ti 0 - 0.1; P 0.027 - 0.082; S 0.020 - 0.045. It is established that the best quality is offered by Mn-steel with Ti $\leq$ 0.025% and analogous steel with small admixtures

Card 1/2

S/137/60/000/011/039/043
A006/A001

Mechanical and Casting Properties of Some Low-Carbon Low-Alloy Steel Grades

of Cr and Si. A higher content of Ti (0.1%) is undesirable in view of impaired a_k. Additions of V (0.15%) and Ti (0.025%) do practically not affect the fluidity of low carbon low-alloy steel.

T.F.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

18(3), 18(7), 24(2)
AUTHORS: Popov, A. A. and Mikhalev, M. S. [illegible]

TITLE: The Kinetics of Ferrite Formation During Decarburisation of Carbon and Alloy Steels (O kinetike obrazovaniya ferrita pri obezuglerozhivanii uglerodistykh i legirovannykh staley)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1959, Vol 7, Nr 2, pp 198-208 (USSR)

ABSTRACT: The formation of ferrite during decarburisation is associated with the formation and subsequent displacement of the interphase surface. Hence it is logical to use for an analysis of this process the laws of diffusion movement of the phase boundaries (Ref 1). The theoretical conclusions, which are quoted at the end of the article, were checked experimentally. Decarburisation was carried out at 750, 800, 850, 900 and 950°C in a moist hydrogen atmosphere, which is very reactive and excludes the possibility of skin formation during treatment. The soaking time varied between 3 and 12 hours. The depth of decarburisation, the depth of the pure ferrite layer, the nature of the structure of the decarburised zone, and the quantity

Card 1/6

The Kinetics of Ferrite Formation During Decarburisation of Carbon and Alloy Steels

of the burnt carbon, were studied. The last was found by the change in weight during decarburisation. Some of the results obtained are shown in Figs 4-9. It is evident that the quantity of burnt carbon increases regularly with rise in decarburisation temperature, and with increase in the original carbon content of the steel (see Fig 4). Alloy elements have small influence on the quantity of burnt carbon, which has a tendency to decrease with increase of the majority of alloy elements. The total depth of the decarburised layer is difficult to determine, but it clearly increases with rise in decarburisation temperature or increase in soaking time (see Fig 5). It was not possible to find a noticeable difference in the total depth of the decarburised layer of different steels, which had been treated identically, and therefore a wide band, characteristic of the scatter of experimental points obtained for various carbon and alloy steels, is shown in Fig 5. Alloy steels as a rule were found to

The Kinetics of Ferrite Formation During Decarburisation of Carbon and Alloy Steels

have a somewhat lower depth of decarburised zone, as compared with similar carbon steels. The thickness of the pure ferrite layer in carbon steels increases, as is to be expected, with increase in decarburisation temperature, reaching a maximum at about 800°C, and then decreases to zero as the temperature approaches 900°C (see Fig 6). A similar phenomenon can also be observed in the decarburisation of alloy steels, but here the upper limit of the temperature range in which the formation of ferrite during decarburisation takes place, changes. An increase in carbon content of steel leads to a regular decrease in the thickness of the pure ferrite layer at all decarburisation temperatures (see Fig 6). The alloy elements also noticeably influence the thickness of the pure ferrite layer. Nickel, manganese and chromium decrease the thickness of the layer, whereas silicon and aluminium increase it. At all decarburisation temperatures the pure ferrite zone usually consists of strung out (columnar) crystals (see Fig 7). The structure of steel 35 is an exception,

The Kinetics of Ferrite Formation During Decarburisation of Carbon and Alloy Steels

as it consists, after decarburisation at 750°C, of a large quantity of equi-axed crystals in the pure ferrite zone, and does not contain any columnar crystals (see Fig 8). This is associated with the fact that for this steel, 750°C is a temperature within the critical range and ensures the original structure together with small portions of austenite in a matrix of ferrite. As can be expected, an inter-layer, consisting of a mixture of ferrite and austenite, is formed during decarburisation of alloy steels between the layer of pure ferrite and the original austenite structure (see Fig 9). Such an interlayer obviously does not exist in decarburised carbon steels (see Fig 7b). From the above experimental results the authors have arrived at the following conclusions:

1) Diffusion processes occurring in the layer of ferrite forming, favour its growth. However, the diffusion processes in the portions of austenite situated lower down oppose the development of the ferrite layer.

The Kinetics of Ferrite Formation During Decarburisation of Carbon and Alloy Steels

2) For a given temperature and soaking time, an increase in the initial carbon content of the steel increases the quantity of burnt carbon, but decreases the depth of the pure ferrite layer. However, the total depth of the decarburised layer is practically independent of the original carbon content of the steel.
3) For equal soaking times a rise in decarburisation temperature leads in a given steel to a regular increase in the quantity of burnt carbon, and to an increase of the total depth of the decarburised layer. The distance below the surface of the location of the pure ferrite layer initially increases with increase in decarburisation temperature, reaching a maximum and then decreases, tending to zero as the temperature approaches the A_3 point for pure iron, or the $\alpha \leftrightarrows \gamma$ transformation temperature for a decarburised alloy with the same alloy element content.
4) Alloy elements have small influence on the quantity of burnt carbon, and on the total depth of the decarburised layer, but influence the position of the pure ferrite layer below the surface. This change is

The Kinetics of Ferrite Formation During Decarburisation of Carbon and Alloy Steels

due not so much to the change of the diffusion coefficients of carbon in the α and γ solid solutions, as to a change of the boundary compositions of the ferrite-austenite interphase surface. Hence elements which lower the $\alpha \rightleftarrows \gamma$ transformation temperature usually retard ferrite formation, whereas elements which raise these temperatures tend to accelerate it.

5) During decarburisation of alloy steels, an interlayer is formed between the layer of pure ferrite and portions of austenite lower down, consisting of a mixture of ferrite and austenite, which is absent in carbon steels during decarburisation.

There are 9 figures and 10 references, 8 of which are Soviet, 1 English, 1 German.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im.S.M.Kirova (Ural Polytechnical Institute imeni S. M. Kirov)

SUBMITTED: September 24, 1957

S/137/61/000/011/080/123
A060/A101

AUTHORS: Mikhalev, M.S., Kuznetsova, I.R.

TITLE: Quantitative dependence of the influence of the pearlite component upon the yield strength of low-carbon steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1961, 46-47, abstract 11Zh276 ("Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chern. metallov", 1960, No 8, 68-73)

TEXT: An investigation was carried out upon the increase in strength under the influence of the pearlite component in low-carbon steel from a single heat, containing various C contents (0.043, 0.085, 0.16, and 0.24%) The steel was smelted in an induction furnace. The different C contents are obtained by subsequent carbonization of the molten steel in the furnace. 16-kg ingots were subjected to diffusion annealing at 1100°C for 20 hours and were forged into 25 x 25 mm bars, which were normalized from the temperature 950°C. In order to obtain various amounts of pearlite, shapes of 12 x 12 x 70 mm were cut out of the rods, heated up to 920 - 940°C and cooled down at various rates

S/137/61/000/011/080/123
A060/A101

Quantitative dependence.....

in quiet air environment, in an air stream, in oil, and with precooling in water with subsequent cooling in oil. The physical yield-strength was determined by stretching Gagarin-type specimens. It was found that in low-carbon steel the effect produced upon the σ_s by increasing the pearlite component, obtained both on account of increasing the C content in the steel and on account of raising the cooling rate of the steel, does not depend upon the degree of the strengthened state of the ferrite base. This conclusion can be apparently extended also to the variation of σ_s under the influence of pearlitic component in alloying low-carbon steel. As the quantity of the pearlite in the structure increases by 1%, the value of the σ_s of the steel under investigation is raised by 0.24 kg/mm^2. There are 10 references.

L. Gordiyenko

[Abstracter's note: Complete translation]

Card 2/2

18 IIII

31960
S/123/61/000/023/012/018
A052/A101

AUTHOR: Mikhalev, M. S.

TITLE: The effect of small titanium additions on mechanical properties of cast low-alloy low-carbon steels.

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 23, 1961, 6, abstract 23G43 (Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chern. metallov, no. 8, 1960, 81-87)

TEXT: In low-carbon low-alloy titanium steels a sulfide phase is formed which presents a solid solution of titanium and manganese sulfides. At a titanium and sulfur content, satisfying the condition $\frac{Ti}{S} > 1.36$, this phase takes position on the boundaries of the primary crystallization grain and reduces sharply the plastic properties of steel. An addition of up to 0.12% aluminum has no effect on the character of separation of sulfide containing titanium. An addition increased up to 2.3% eliminates the eutectic character of the separation of sulfide but maintains its position on the grain boundaries. To obtain a good-quality casting with improved mechanical properties, the titanium content in low-alloy low-carbon steel should not exceed 0.025%.
[Abstracter's note: Complete translation]

Card 1/1

MIKHALEV, M.S.; MIRONOV, L.V.

Metallographic control of steel for nonmetallic inclusions.
Stal' 20 no. 7:647-649 Jl '60. (MIRA 14:5)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.
(Steel--Metallography) (Nonmetallic materials)

S/133/60/000/011/017/023
A054/A029

AUTHORS: Mikhalev, M.S., Engineer, Gol'dshteyn, M.I., Candidate of Technical Sciences

TITLE: Vanadium-Containing Low-Alloy Steel for Railroad Cars and Constructions

PERIODICAL: Stal', 1960, No. 11, pp. 1026-1029

TEXT: A new type of low-alloy steel (15ГФ = 15 GF) was tested produced from the vanadium-containing ores of the Kachkanarsk deposit. The new steel had the following composition: C 0.11-0.17%; Mn 0.9-1.2%; Si 0.17-0.37%; V 0.04-0.09%; S and P $\leqslant$ 0.040%. Three test meltings were performed on an industrial scale (in 50 and 140 ton open-hearth furnaces); the charges No. 237, 368 and 686 contained 1.20% Mn, 0.09%V; 0.96% Mn, 0.08 V and 1.10% Mn and 0.09% V, respectively. The mechanical properties of the new steel were examined on sheets (4-40 mm thick) and on beams of various types (double-T, etc.), rolled from the test ingots (5 and 7 t in weight). The values obtained for mechanical properties, both longitudinally and transversely, were well above the standards set for railroad car steels. In the following table the numerators indicate the actual values recorded and the denominators the

Card 1/3

S/133/60/000/011/017/023
A054/A029

Vanadium-Containing Low-Alloy Steel for Railroad Cars and Constructions

standard requirements:

σ_B kg/mm^2	σ_B kg/mm^1	δ_{10} %	a_k kgm/cm^2 + 20°	temp. -40°	Bending angle degree
53-64.1	37-48.1	18-24.5	9.5-15.0	5.5-9.2	180
≥ 48	≥ 35	≥ 18	≥ 8	≥ 4	180

The aging coefficient for the new steel was about 33% lower than for the Cт.3 (St.3) type steel (65-75%). The tests carried out on the decomposition kinetics of austenite for the purpose of investigating the behavior of the 15GF type steel during continuous cooling after rolling and after welding showed that the austenite of this type of steel was more stable than that of the St.3 type steel. This was due to the 15GF steel being alloyed with Mn and V, the carbides of which were completely absorbed in austenite at the test temperatures (200;400;600;800 and 1,000°C). The stamping properties of the 15GF steel were found to be satisfactory. The power, however, required for stamping this steel was 25-30% higher than for St.3 steel, but this goes for all low-alloy, high strength steels (15ХСНД = 15KhSND; 09Г2 = 09G2, etc).

Card 2/3

S/133/60/000/011/017/023
A054/A029

Vanadium-Containing Low-Alloy Steel for Railroad Cars and Constructions

The weldability of the new steel was tested under the severest conditions with the same electrodes, fluxing material and wires as used for the St.3 steel. The tests proved that the 15GF steel has good welding properties, the welding seams are strong and have a great tenacity. As the rails and constructions (bridges, waggons, etc.) manufactured from this steel are normally subjected to great fluctuations in loading, vibration strength was also investigated. From the tests mainly carried out by A.Ye. Asnis (Ref 5) it was established that in this respect the new steel type was not different from other low-alloy and low-carbon content steels. Economic calculations and comparisons with similar steel types showed that the alloying costs for the 15GF type steel were by 54 rubles/ton lower than for the 15KhSND type and, therefore, the new steel can be used as substitute for low-alloy steels containing nickel. There are 2 figures, 1 table and 11 references: 9 Soviet, 1 English, 1 German.

ASSOCIATION: Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov
(Ural Scientific-Research Institute for Iron and Steel)

Card 3/3

MIKHALEV, M. S., CAND TECH SCI, "CERTAIN PROBLEMS OF [illegible] STRENGTH OF LOW-ALLOY CONSTRUCTION STEELS." SVERDLOVSK, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR. URALS POLY-TECH INST IMENI S. M. KIROV). (KL-DV, 11-61, 221).

MIKHALEV, Mikhail Semenovich; RUDNITSKIY, P.M., inzh., retsenzent; KOVALENKO, A.V., inzh., red.; DUGINA, N.A., tekhn. red.

[Low-alloy instead of carbon steels] Nizkolegirovannye stali vzamen uglerodistykh. Pod red. A.V.Kovalenko. Moskva, Mashgiz, 1961. 32 p. (MIRA 15:2)

(Steel alloys)

S/276/63/000/002/048/052
A052/A126

AUTHORS: Mikhalev, M.S., and Bogachev, I.N.

TITLE: Some problems of low-carbon steel strengthening due to alloying

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no.2, 1963, 10-11, abstract 2 54 (Tr. Ural'skogo n.-i. in-ta chern. metallov, no. 1, 1961, 145-159)

TEXT: The intensity of the yield-limit increase at alloying low-carbon normalized steel with the studied elements decreases successively in the row Ti, Al, P, V, C, Mo, Mn, Cu, W, Si, Cr, Ni and Co. When Mn, Si, Cu, Ni, Cr, Mo and W are added the yield limit decreases due to the ferrite strengthening in the form of solid solution formation and due to the increase of the amount of the perlitic component in the structure of steel; when P and Co are added the yield limit decreases due to the ferrite strengthening at the solid solution formation only, and with the increase of carbon content, due to the increase of the perlitic component. Alloying steel with Al results in an increase of the yield limit mainly (and in the

Card 1/2

Some problems of low-carbon...

case of titanium, partly) because of the breaking up of the grain. A strong strengthening effect of V in low-carbon steel is caused by the age hardening process taking place at the decomposition of V-supersaturated α -solid solution.

(Abstracter's note: Complete translation.)

Card 2/2

18.7510 25927 S/126/61/012/001/019/020
E111/E435

AUTHORS: Mikhalev, M.S. and Susloparov, G.D.

TITLE: Dispersion hardening of ferrite in low-carbon steel with an addition of vanadium

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.12, No.1, pp.149-151

TEXT: M.S.Mikhalev and M.I.Gol'dshteyn (Ref.1: Stal', 1958, No.10) have shown that vanadium strengthens steel much more than carbon-free iron. With low-carbon steel an almost direct proportionality between increase in microhardness of ferrite and vanadium content of the steel has been observed. Experiments on a steel (0.20% C, 0.16%V) in which ferrite microhardness was measured after isothermal decomposition of austenite and holding at the same temperature showed that a process typical of dispersion hardening occurs in ferrite. Electron-microscopic investigation of normalized (1050°C) and normalized and additionally tempered (650°C, 1 and 4 hours) specimens suggested that formation of particles at block boundaries occurs. Electron diffraction showed these particles to be vanadium carbide. Their location at boundaries makes them plate-like with a chain-like arrangement.

Card 1/2

25927

S/126/61/012/001/019/020
Dispersion hardening of ferrite ... E111/E435

The great strengthening of steel on adding vanadium can be explained by the fact that the separate particles and the boundary carbide barrier with its stress fields hinder movement of dislocations; additional energy, i.e. increased external load, is needed to overcome this hindrance. The large difference between the strengthening capability of vanadium in carbon-free alloys and low-carbon steels is due to the fact that in the former, strengthening through additions of vanadium occurs through formation of a solid solution of vanadium in alpha-iron, while in the latter it is due to submicroscopic formations of vanadium carbide in the ferrite. There are 2 figures, 1 table and 5 references: 3 Soviet and 2 non-Soviet. The reference to an English language publication reads as follows: Gensamer M. Trans. ASM, 1946, 36,30.

ASSOCIATION: Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov (Ural Scientific Research Institute of Ferrous Metals)

SUBMITTED: December 22, 1960

Card 2/2

S/133/62/000/007/013/014
A054/A127

AUTHORS: Mikhalev, M.S.; Kuznetsova, I.K.

TITLE: At the Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov (Ural Scientific Research Institute of Ferrous Metals)

PERIODICAL: Stal', no. 7, 1962, 639

TEXT: Two new steel grades were developed for use in building structures, the 15ГСФ (15GSF) grade with a pearlitic, and the 15ХГСФМ (15KhGSFM) grade with a baynitic structure. The first grade contains 0.12 - 0.18% C, 1.5 - - 1.8% Mn, 0.40 - 0.70% Si and 0.04 - 0.09% V; the second contains also 0.40 - - 0.70% Cr and 0.20 - 0.40% Mo. The mechanical properties of the new steel grades are the following:

	σ_B kg/mm^2	σ_s kg/mm^2	δ_{10} %	a_k kgm/cm^2 at +20°, at -40°	
15ГСФ	55	40	16	6	3
15ХГСФМ	80	60	12	5	3

The values of the first grade refer to the hot-rolled condition, those of the sec-

Card 1/2

S/133/62/000/007/013/014
A054/A127

At the Ural'skiy.....

ond to the hot-rolled or normalized condition. Both grades have to pass the bending test at an angle of 180°. Substitution of the grades for the St.3 (St.3) grade makes possible a 40 - 45% reduction of the weight of building structures.

Card 2/2

GOROZHANINOV, N.Ye.: MIKHALEV, M.S.

Characteristics of joining St.5, 35GS, and St.3 steels by double impulse spot welding without preliminary cleaning. Avtom. svar. 15 no.12:47-50 D '62. (MIRA 16:2)

1. Sverdlovskiy nauchno-issledovatel'skiy institut po stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR (for Gorozhaninov). 2. Ural'skiy nauchno-issledovatel'skiy institut chernoy metallurgii (for Mikhalev).
(Steel—Welding)

KHOREV, V.N.; BARANOVA, N.A.; GORLACH, I.A.; KVASOV, Ye.I.; KRAMARENKO, I.S.; MIRONOV, L.V.; PRIVALOV, S.S.; LYASKO, M.V.; DUBROV, N.F.; MIRONOV, L.V.; KOKSHAROVA, I.K.; MIKHALEV, M.S.; LAZAREV, E.M.; KUZNETSOVA, I.R.; LAPKIN, N.I.; KRASIL'NIKOV, N.A.; GOL'DSHTEYN, M.I.; GUTERMAN, S.G.; ODINOKOV, Yu.I.; SKRYABIN, N.P.; KORSHCHIKOV, V.D.

Research by the Ural Ferrous Metal Research Institute. Stal' 22 no.7:621,623,638-639,670 Jl '62. (MIRA 15:7)
(Metallurgical research)

MIKHALEV, M.S.

Method of evaluating the degree of contamination of steel by trails of nonmetallic inclusions. Zav. lab. 30 no.11:1360-1361 '64 (MIRA 18:1)

1. Ural'skoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta.

LITVINOV, V.Ya., inzh. (Sverdlovsk); MIKHALEV, M.S., kand. tekhn. nauk (Sverdlovsk)

Rails manufactured by two combines. Put' i put. khoz. 9 no.3:5-6 '65. (MIRA 18:6)

MIKHALEV, N., formovshchik

Leaving time behind...Sov.profsoiuzy 7 no.2:26-27 Ja '59.
(MIRA 12:3)

1. Moskovskiy kamnelitaynyy zavod.
(Moscow--Stone, Cast)

MIKHALEV, N.

To the agenda of the Technical Committee of the Moscow City Economic Council. Izobr.i rats no.2:8-9 F '62. (MIRA 15:3)

1. Byuro po delam ratsionalizatsii i izobretatel'stva Moskovskogo kamneliteynogo zavoda.
(Stone, Cast)

DEM'YANYUK, T.; MALYSHEV, B., teplotekhnik; MIKHALEV, N., kand.tekhn.nauk; STOLPNER, Ye., nauchnyy sotrudnik.

Gas motor operated water-heater for bath houses. Zhil.-kom. khoz. 8 no.2:24-26 '58. (MIRA 11:2)

1.Glavnyy inzhener tresta ban' Lengorispolkoma (for Dem'yanyuk). 2.Bank No.65 g. Leningrada (for Malyshev). 3.Leningradskiy nauchno-issledovatel'skiy institut Akademii kommunal'nogo khozyaystva (for Stolpner).

(Semiconductors)
(Remote control)

GEL'MAN, Aleksey Eduardovich; DNYATSKIY, David M [illegible];
AFATOVSKIY, Lev Ye[illegible]evich. Prinimali uchastiye:
MOISEYEVA, L.L.; RADYUSH, V.P.; MISE[illegible], A.A.; [illegible],
A.B.; MIKHALEV, L.L., red.[deceased]

[Large block-type condensing electric power plants; parameters and heat networks] Blochnye kondensatsionnye elektrostantsii bol'shoi moshchnosti; parametry i teplovye skhemy. Moskva, Energiia, 196[illegible]. [illegible] p.
(MIRA 1[illegible]:1)

AYZENBERG, B.L.; BOLOTOV, V.V. ; BRIL', R.Ya.; GERASIMOV, V.N.; GREKOV, V.I.; DOVETOV, M.Sh.; KAMENSKIY, M.D.; KLEBANOV, L.D.; KONSTANTINOV, B.A.; KUZ'MIN, V.G.; LIUBAVSKIY, V.I.; MELENT'YEV, L.A.; MIKHALEV, N.N.; POLYANSKIY, V.A.; RAZDROGINA, L.A.; SIVAKOV, Ye.R.; STARIKOV, V.G.; SAVASHINSKAYA, V.I.; SHAYOVICH, L.L.

Igor' Valentinovich Gofman, 1903-1963; obituary. Trudy LIEI no.51:3-4 '64. (MIRA 18:11)

MIKHALEV, P., kapitan

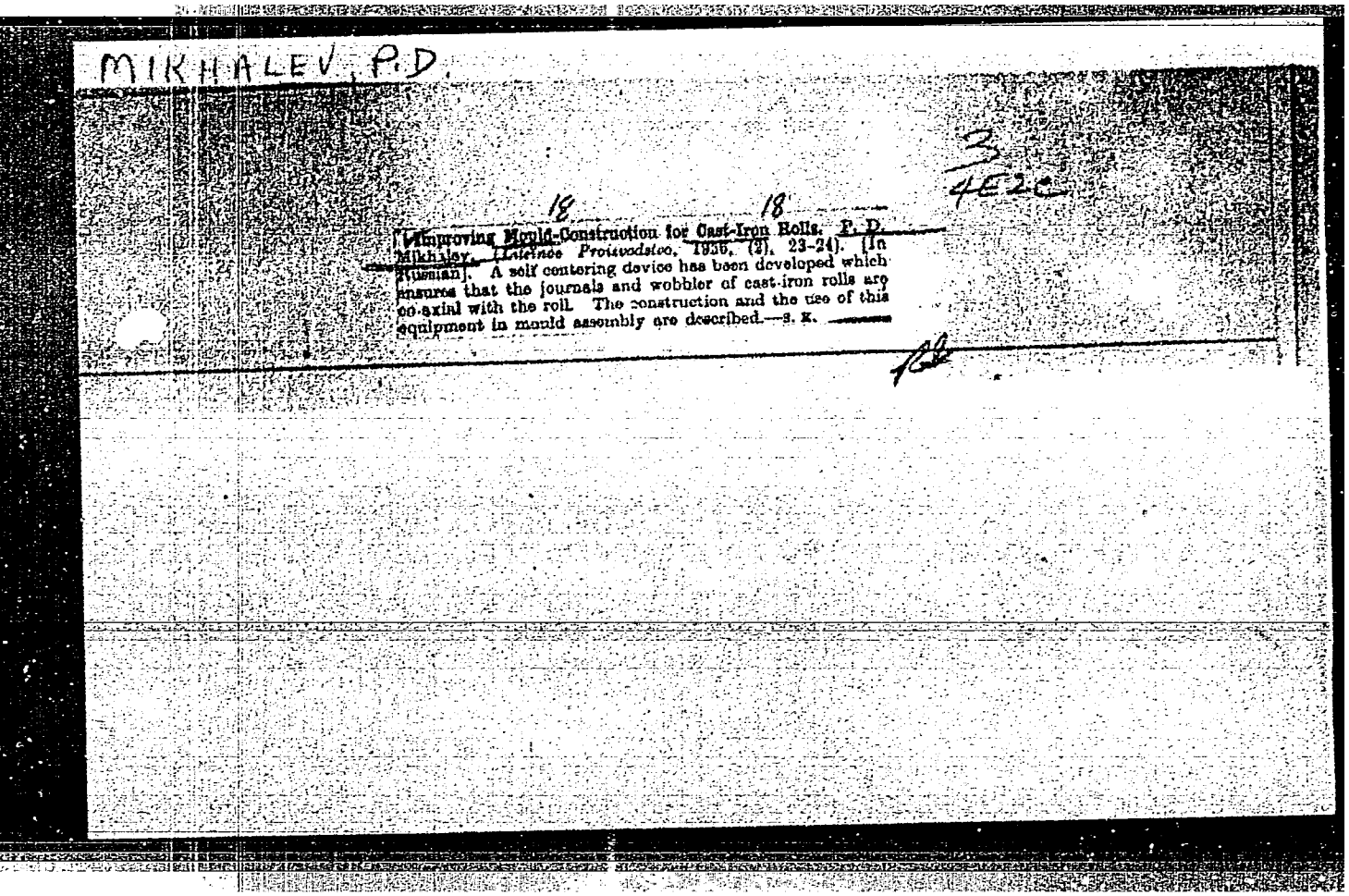
Model of the relief of a locality. Voen. vest. 41 no.2:107-108 F '62. (MIRA 15:3)

(Military topography)

MIKHALEV, P.

Increasing the productivity of the plasma drying sublimation apparatus KS-6 of the firm "Motokov". Probl. gemat. i perel. krovi 8, no.1:51-53 JA '63. (MIRA 16:5)

1. Iz Smolenskoy oblastnoy stantsii perelivania krovi (glavnyy vrach A.I. Makarenkov).
(BLOOD PLASMA) (BLOOD COLLECTION AND PRESERVATION)



MIKHALEV, P.D.

18 18

Improving Mould-Construction for Cast-Iron Rolls. P. D. Mikhaley. (*Liteinoe Proizvodstvo*, 1956, (2), 23-24). [In Russian]. A self centering device has been developed which ensures that the journals and wobbler of cast-iron rolls are co-axial with the roll. The construction and the use of this equipment in mould assembly are described.—S. K.

3
4E2c

133-8-25/28

AUTHOR: Mikhalev, P.D.

TITLE: Twin casting of rolling rolls. (Parnaya otlivka prokatnykh valkov).

PERIODICAL: "Stal'" (Steel), No.8, 1957, pp.758-759 (USSR).

ABSTRACT: Casting of cast iron rolls in twin moulds (one roll vertically over the other) is described. The diagram of the twin mould is shown in Fig.1; the method of forming the lower neck of the bottom roll is shown in Fig.2 and the tool used for centreing for accurate forming of the top neck of the upper roll with the shrinkage head in the upper chill mould of the twin mould in Fig.3. The use of a twin mould gives a considerable economy in: liquid metal, the working space required and forming materials. The productivity of work in the preparation of moulds and mechanical treatment of twin rolls increases considerably. The latter treatment is done simultaneously for both rolls on a single roll-turning machine with a single setting. There are 3 figures.

Card 1/1

ASSOCIATION: Dneptropetrovsk Cast Iron Rolls Manufacturing Works. (Dnepropetrovskiy chugunoval'tsedelatel'nyy zavod).

AVAILABLE: Library of Congress

MIKHALEV, P.V., klinicheskiy ordinator

Some data on the development of psychoneurological care in Kursk Province from 1917 to 1957. Sbor. trud. Kursk. gos. med. inst. no.13:428-429 '58. (MIRA 14:3)

1. Iz kliniki psikhiatrii (ispolnyayushchiy obyazannosti zaveduyushchego - kandidat meditsinskikh nauk O.Z.Golubkov) Kurskogo gosudarstvennogo meditsinskogo instituta.
(KURSK PROVINCE--PSYCHIATRIC HOSPITALS)

MIKHALEV, P.V. (Kursk)

P.D. Maksimov as psychiatrist and public figure. Zhur. nevr. i psikh 59 no.5:607-608 '59. (MIRA 12:7)

(BIOGRAPHIES,
Maksimov, P.D. (Rus))

MIKHAIL', S. [illegible].

"Two-Dimensional Theory of a Reactive Jet." Cand 26 Mar 51, Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 470, 9 May 55

SOV/88-58-97-3/7

AUTHOR: Mikhalev, B. V., Candidate of Technical Sciences

TITLE: Investigation of the Flow in a Two-Dimensional Nozzle With an Augmenter (Issledovaniye techeniya v dvukhmernom sople s nasadkom)

PERIODICAL: Trudy Moskovskogo aviatsionnogo instituta, 1958, Nr 97: Addition of a Supplementary Volume in Jet Apparatus (Prisoyedineniye dopolnitel'noy massy v struynykh apparatakh), pp 43-86 (USSR)

ABSTRACT: The author establishes equations for determining the thrust of a nozzle with an augmenter, and of the field of velocities inside it and outside it. The derivation is based on combination of two simple flows: the flow of a turbulent submerged jet, and a system of elementary vortices whose position depends on the geometry of the augmenter. The conclusions were confirmed experimentally. This method of combining flows is applicable for continuous nonturbulent media. The author shows that under some conditions it is also applicable when turbulence is present in the flow, and that the method used in the

Card 1/2

Investigation of the Flow in a Two-Dimensional Nozzle With an Augmenter

study of potential flows may be applied to turbulent flows. The author arrives at the following conclusions: 1) The nature of turbulent mixing in a jet apparatus and in a free submerged jet is the same. 2) The flow in an ejector is the deformed flow of a submerged jet, due to the influence of walls of the apparatus, which may be equated to the influence of a system of point vortices of a defined intensity. 3) In the determination of vortex intensities in an ideal flow, the turbulent viscosity coefficient must be considered constant. The means are given of arriving at the desired degree of accuracy of the analysis of this problem by approximation, using some functions. 4) The equations obtained for determining the force of thrust of the nozzle with an ejector agree well with experimental data. 5) An equation for determining the ideal model of velocities inside and outside the apparatus is given. Real velocities differ from ideal, especially near the walls, due to the presence of a turbulent layer. The necessary corrections for it are made with the help of formulae given by the author. This makes possible the determination of real velocities inside the apparatus with sufficient accuracy. The bibliography consists of 9 references, 7 of them Soviet and 2 German.

MIKHALEV, T.

Windbreaks, Shelterbelts, Etc.

Experimental planting and sowing of forest belts. Kolkh. proizv. [illegible] no. [illegible], 19[illegible].

9. Monthly List of Russian Accessions, Library of Congress, June 1952 Uncl.

BEL'KEVICH, V.; MIKHALEV, V.

Club of "Tekhnika-Molodezhi." Tekh. mol. 31 no.8:38 '63.
(MIRA 16:11)

1. Sotrudniki Vsesoyuznogo nauchno-issledovatel'skogo instituta meditsinskikh instrumentov i oborudovaniya.

ACC NR: AP7003026 SOURCE CODE: UR/0309/66/000/003/0063/0063

AUTHOR: Mikhalov, V. (Engineer)

ORG: none

TITLE: Turbojet montgolfier

SOURCE: Nauchno-tekhnicheskiye obshchestva SSSR, no. 3, 1966, 63

TOPIC TAGS: airship, montgolfier, turbojet montgolfier, nonrigid airship, lighter than air aircraft

ABSTRACT: Engineer V. Mikhalev describes a turbojet montgolfier (see Fig. 1), which has a nonrigid, heat-resistant and heat-insulated envelope made of glass cloth and glass fiber. A turbojet-engine unit (2—4 engines) is mounted in the nose section. The exhaust gases, heated to a temperature of 500—700°, fill the envelope and provide lift almost equivalent to that of helium. A gimbaled nozzle is mounted in the tail section of the montgolfier. Changes in speed, altitude, and other maneuvers are carried out by controlling engine operation, turning the nozzle, and varying the cross-section of the nozzle through which the gas escapes from the envelope. When moored, the gas is vented from the nonrigid envelope.

Card 1/2

ACC NR: AP7003026

Fig. 1. A turbojet montgolfier.

Orig. art. has: 1 figure. [ATD PRESS; 4255-F]

SUB CODE: 01 / SUBM DATE: none

Card 2/2

ACC NR: AP7001718 SOURCE CODE: UR/0309/66/000/012/0060/0060

AUTHOR: Mikhalev, V. (Engineer)

ORG: none

TITLE: Again from a cannon to the moon [Solenoid tube for launching spacecraft]

SOURCE: Nauchno-tekhnicheskiye obshchestva SSSR, no. 12, 1966, 60

TOPIC TAGS: spacecraft launching, electric propulsion, spacecraft launch equipment, spacecraft launch vehicle

ABSTRACT: A suggestion for using Jules Verne's well-known idea for using a cannon to send a spacecraft to the moon for launching very heavy payloads into space is offered. The author proposes an electric cannon consisting of a 500-km-long solenoid for shooting needle-shaped, 1000-ton cargo capsules into space. The capsule would be inserted into an airtight vacuum tube of the solenoid, and magnetic cushions would protect the capsule from rubbing against the walls. The acceleration of the capsule inside the solenoid is produced by the automatic sequence switching coils located along the tube. At an acceleration rate of 8 g, the capsule would attain a velocity of 8 km/sec in about 100 sec, requiring about 320 kw of power per kg of its weight. In this way a 1000-ton capsule

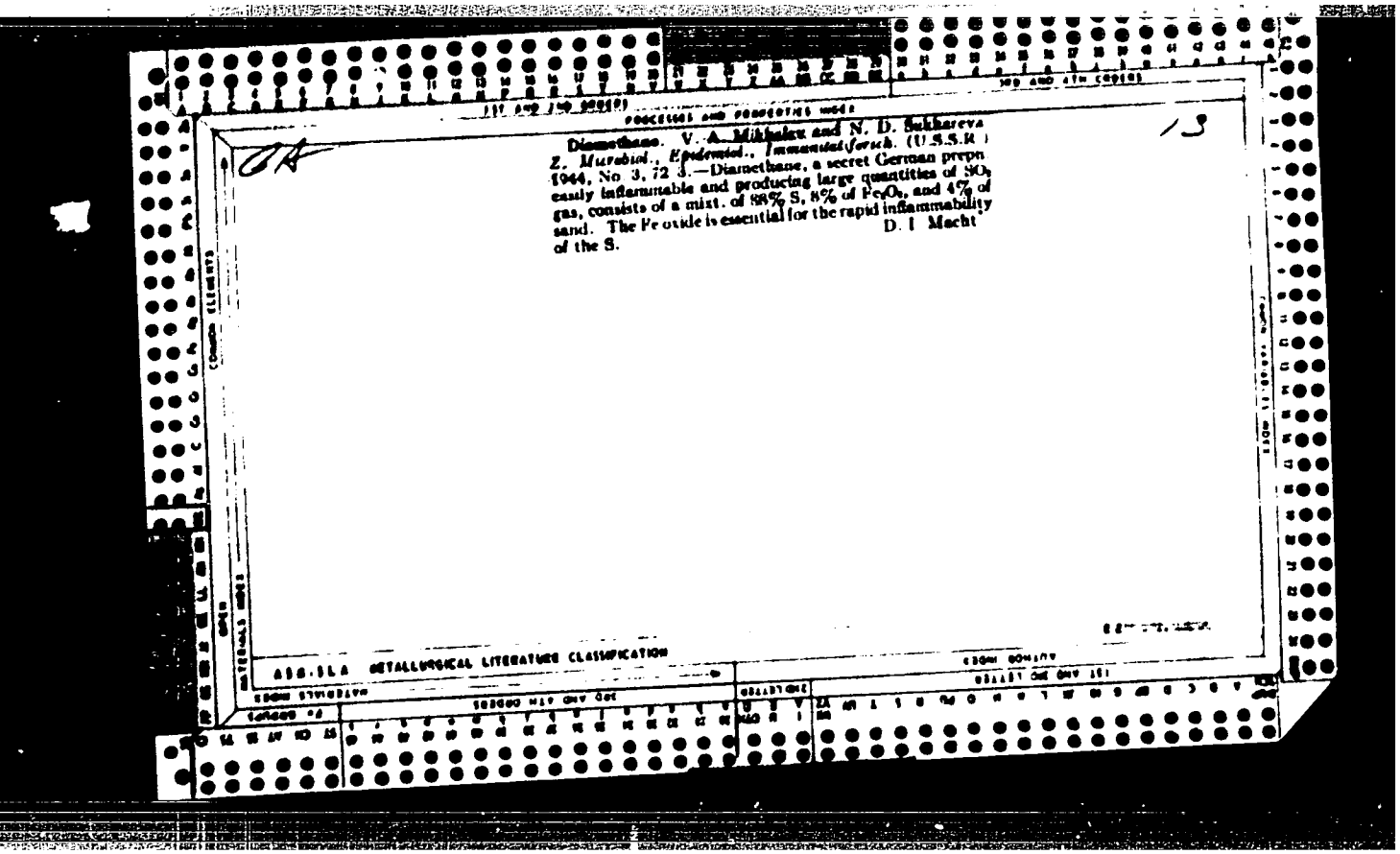
Card 1/2

ACC NR: AP7001718

would require 320-million kw of peak output, or twice the amount currently produced by all Soviet power plants. However, if this electric cannon were to launch 20 such capsules per day, its average power requirement would be only about 7 million kw, which could be met by a large hydroelectric power plant. Certainly, a project of such magnitude would necessarily encounter numerous problems and obstacles. The figures show, however, that a facility with a power of several million kw could launch 20,000 tons of payload into space per day. Orig. art. has: 1 figure and 1 formula.

SUB CODE: 22, 21, 09/ SUBM DATE: none / ATD PRESS: 5111

Card 2/2



Dimethane. V. A. Mikhalev and N. D. Sukhareva. (U.S.S.R.) *Z. Mikrobiol., Epidemiol., Immunobiol.* 1944, No. 3, 72 S.—Dimethane, a secret German preps easily inflammable and producing large quantities of SO_2 gas, consists of a mixt. of 88% S, 8% of Fe_2O_3, and 4% of sand. The Fe oxide is essential for the rapid inflammability of the S.

D. I. Macht

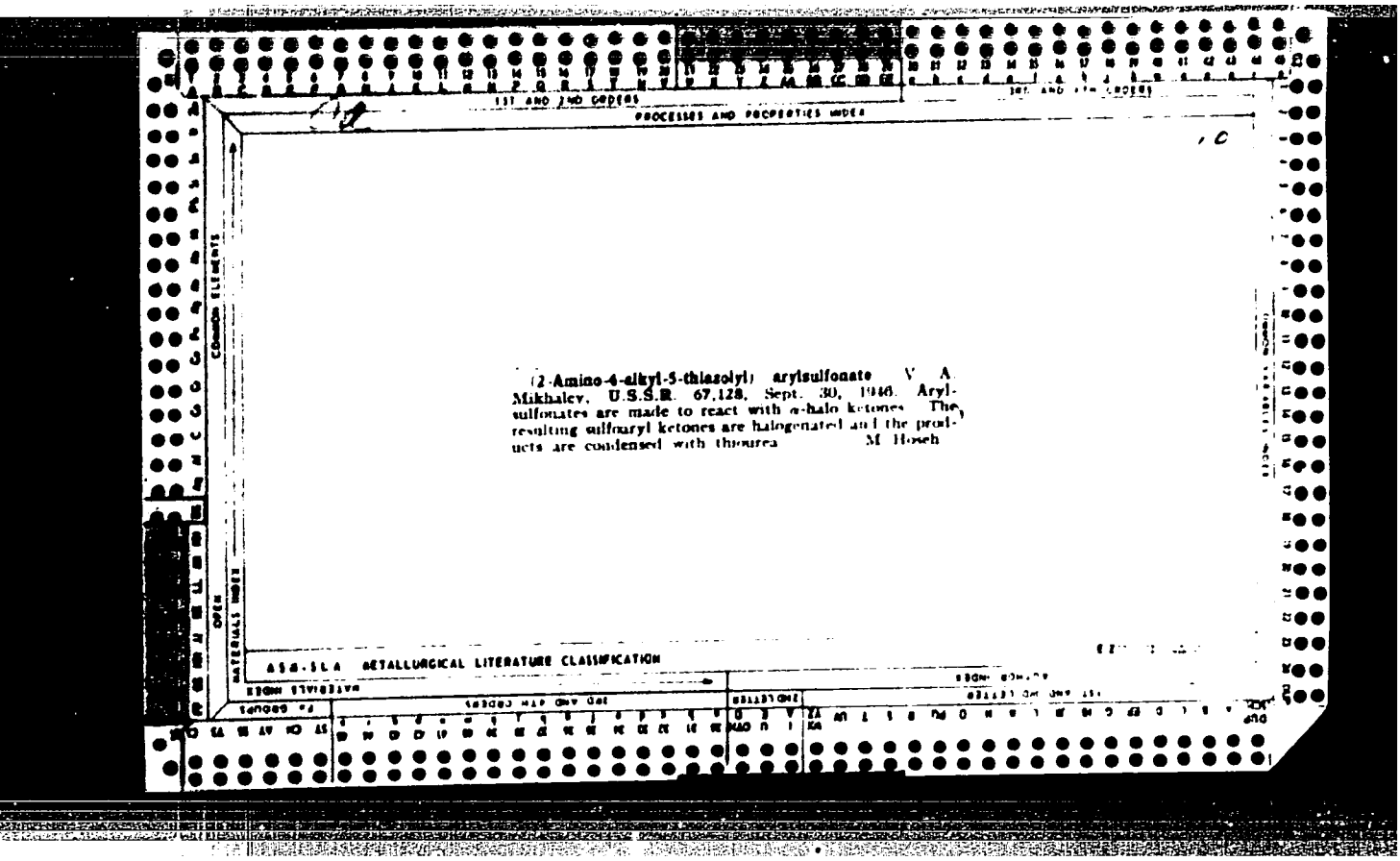
13

MIKHALEV, V. A.

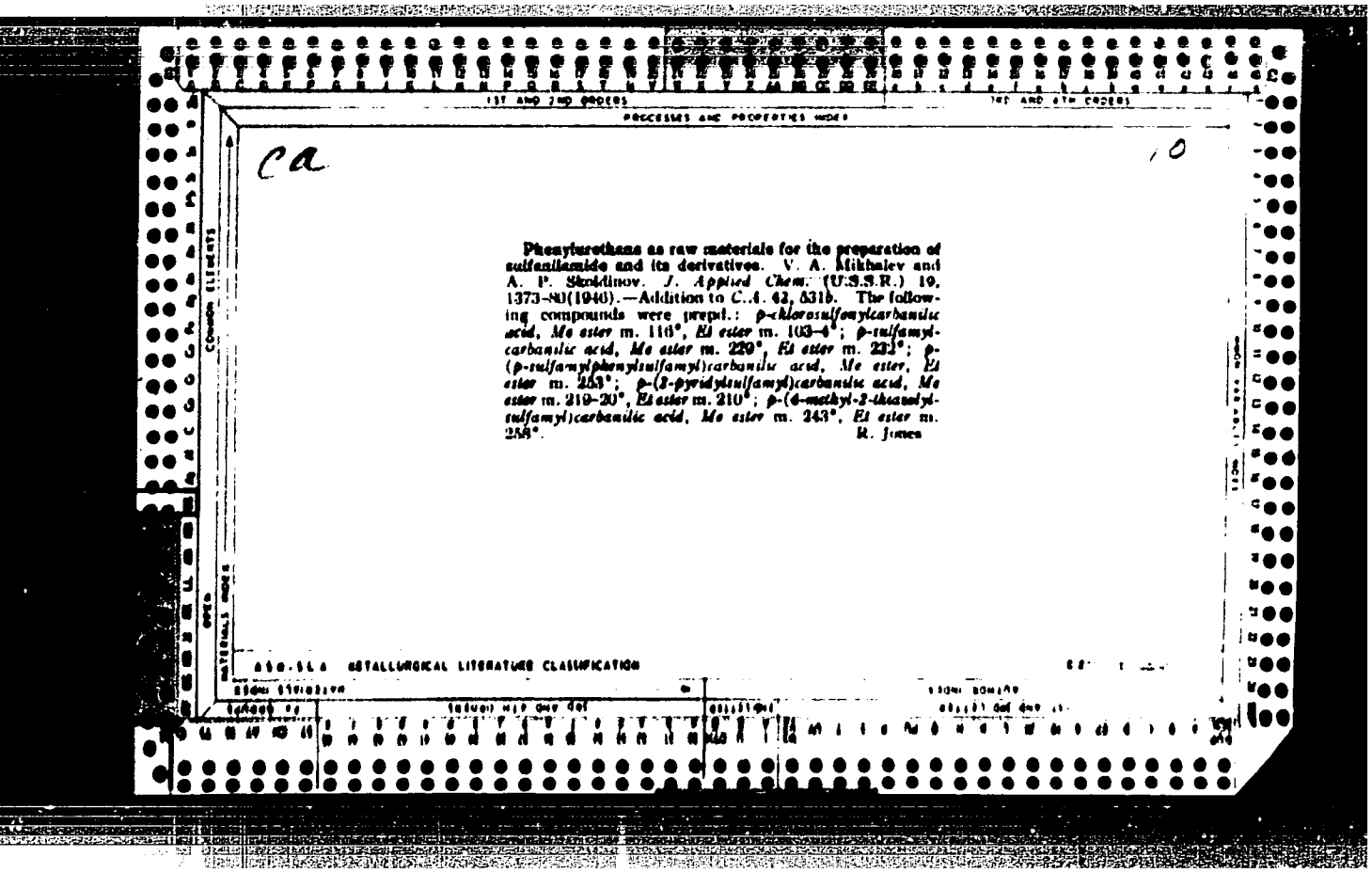
Central Sci Research Inst. for Disinfection, People's Commissariat Public Health, NKZDRAVA, (-1944-).

"Diamethane,"

Zhur. Mikrobiol., Epidemiol., i Immunobiol. [illegible]



(2-Amino-4-alkyl-5-thiazolyl) arylsulfonate. V. A. Mikhalev. U.S.S.R. 67,128, Sept. 30, 1946. Arylsulfonates are made to react with α-halo ketones. The resulting sulfonaryl ketones are halogenated and the products are condensed with thiourea. M. Hoseh



Ca 10

Phenylurethans as raw materials for the preparation of sulfanilamide and its derivatives. V. A. Mikhailev and A. P. Skoldinov. *J. Applied Chem.* (U.S.S.R.) 19, 1373–80(1946).—Addition to C.A. 42, 631b. The following compounds were prepd.: *p-chlorosulfonylcarbanilic acid, Me ester* m. 116°, *Et ester* m. 103–4°; *p-sulfamylcarbanilic acid, Me ester* m. 220°, *Et ester* m. 223°; *p-(p-sulfamylphenylsulfamyl)carbanilic acid, Me ester, Et ester* m. 253°; *p-(2-pyridylsulfamyl)carbanilic acid, Me ester* m. 219–20°, *Et ester* m. 210°; *p-(4-methyl-2-thiazolylsulfamyl)carbanilic acid, Me ester* m. 243°, *Et ester* m. 255°.

R. Jones

MIKHALEV, V. A.

DL-threo-1-(p-Nitrophenyl)-2-amino-1,3-propanediol. A. P. [illegible], [illegible], A. [illegible] Ivanov, V. A. Mikhalev, A. P. Skoldinov, [illegible] Smolin, and N. [illegible] U.S.S.R. 106,358, July 25, 1957. Addn. to U.S.S.R. 103,794 (C.A. 51, 7416a). The reaction products obtained in the reduction of DL-(p-nitro)-α-acetylamino-β-oxypropiophenone as outlined in U.S.S.R. 103,794 are treated with HCl.

M. Hosch

[illegible]LOV, V. V.

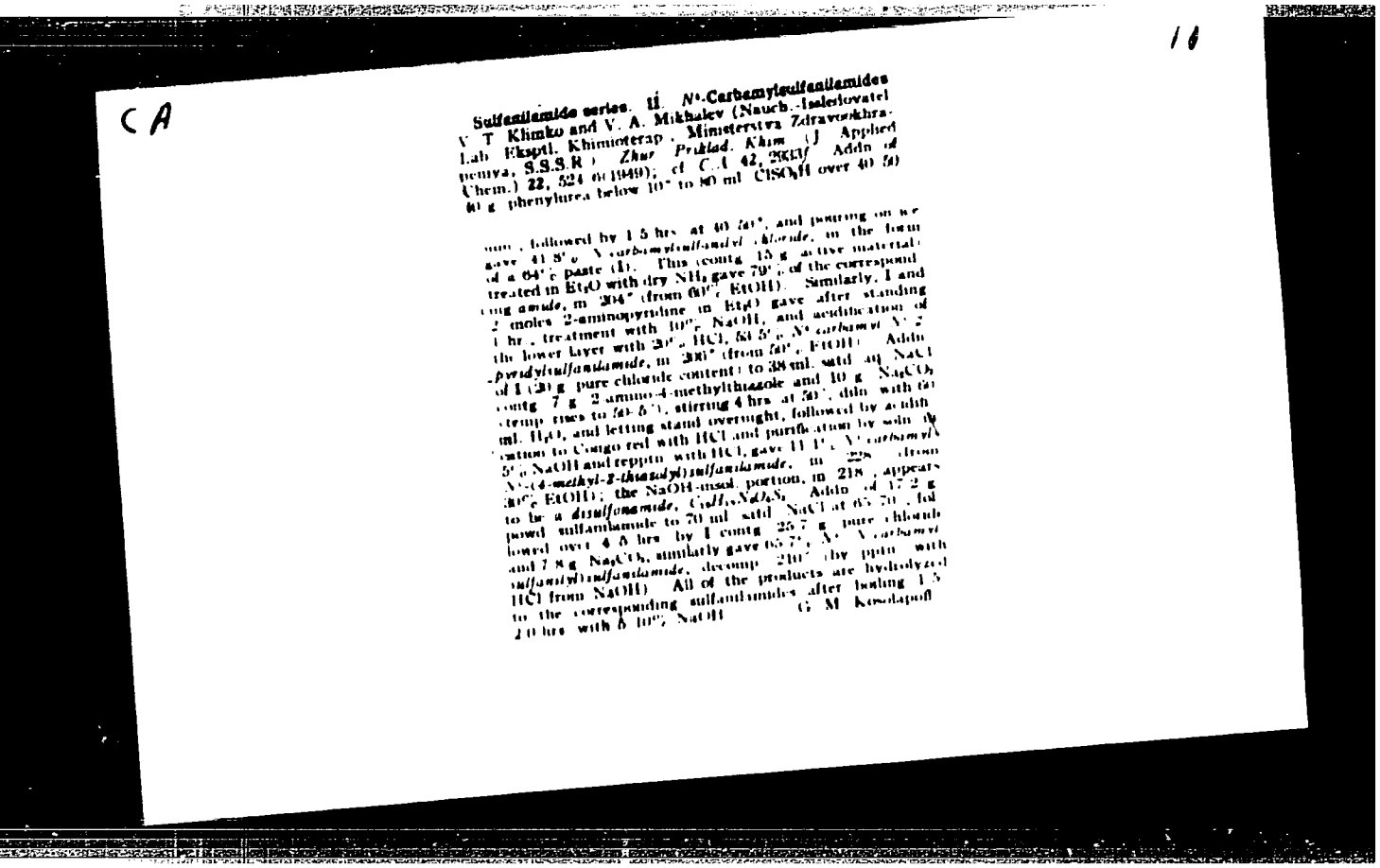
"Sulfanilamide and its N'-derivatives," A. I. Korolev, [illegible]astovskiy, V. A. Mikhalev, V. [illegible]ol'kov, and L. I. [illegible], Zhur. Obshch. Khim., 17, 7, 31 Aug 1947.

N'-Carbalkoxysulfanilamide or its N'-derivs. or compound in an acid or alk. medium.

CA

/ 3

2-Amino-4,6-dimethylpyrimidine V A. Mikhaiev, A A Chervyakova, and N V Savitskaya. **USSR** 69,945, Dec 31, 1947 Na acetylacetone is condensed with guanidine in aq. ale The product contains many admixts difficult to remove. For purpose of purification, the aminodimethylpyrimidine is treated with a soln. of an alkali hydroxide while being heated M Hoseh



CA

16

Sulfanilamide series. II. N⁴-Carbamylsulfanilamides

V. T. Klimko and V. A. Mikhalev (Nauch.-Issledovatel. Lab. Eksptl. Khimioterap., Ministerstva Zdravookhraneniya, S.S.S.R.). *Zhur. Prikład. Khim.* (J. Applied Chem.) **22**, 524 (1949); cf. C.A. 42, 2833f. Addn. of 40 g. phenylurea below 10° to 80 ml. $ClSO_3H$ over 40–50 min., followed by 1.5 hrs. at 40–50°, and pouring on ice gave 41.8% *N-carbamylsulfanilyl chloride*, m. [illegible] (I). This (contg. 15 g. active material) treated in Et_2O with dry NH_3 gave 70% of the corresponding *amide*, m. 204° (from 60% EtOH). Similarly, I and 2 moles 2-aminopyridine in Et_2O gave after standing 1 hr., treatment with 10% NaOH, and acidification of the lower layer with 30% HCl, 58.5% *N⁴-carbamyl-N¹-2-pyridylsulfanilamide*, m. 230° (from 50% EtOH). Addn. of 1 (30 g. pure chloride content) to 38 ml. satd. aq. NaCl contg. 7 g. 2-amino-4-methylthiazole and 10 g. Na_2CO_3, temp. rises to 50–55°, stirring 4 hrs. at 50°, diln. with 60 ml. H_2O, and letting stand overnight, followed by acidification to Congo red with HCl and purification by soln. in 5% NaOH and reppin. with HCl, gave 11.1% *N⁴-carbamyl-N¹-(4-methyl-2-thiazolyl)sulfanilamide*, m. [illegible] (from 80% EtOH); the NaOH-insol. portion, m. 218°, appears to be a *disulfonamide*, $C_{17}H_{16}N_4O_4S_2$. Addn. of 17.2 g. powd. sulfanilamide to 70 ml. satd. NaCl at 65–70°, followed over 4–5 hrs. by I contg. 25.7 g. pure chloride and 7.8 g. Na_2CO_3, similarly gave 65.7% *N⁴-carbamyl-sulfanilyl-sulfanilamide*, decomp. 210°; by prin. with HCl from NaOH). All of the products are hydrolyzed to the corresponding sulfanilamides after boiling 1.5–2.0 hrs. with 5–10% NaOH.

G. M. Kosolapoff

MIKHALEV, V. A.

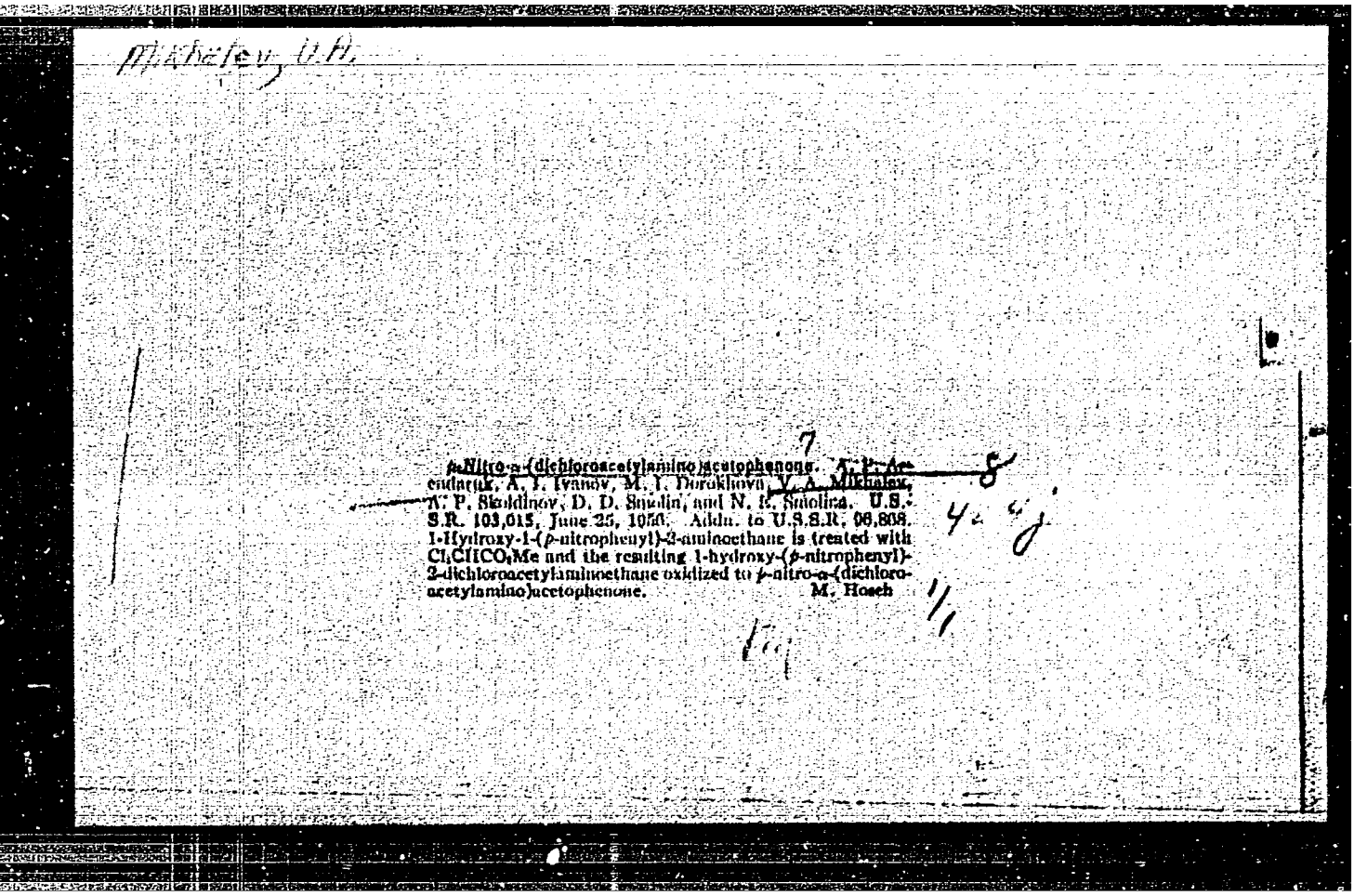
Apparatus for prolonged drip intravenous infusion. Med. promyshl. SSSR no.2:44-45 Mar-Apr 1952. (CLML 22:2)

1. All-Union Scientific-Research Institute for Medical Instruments and Equipment.

[illegible]LEV, V. A.

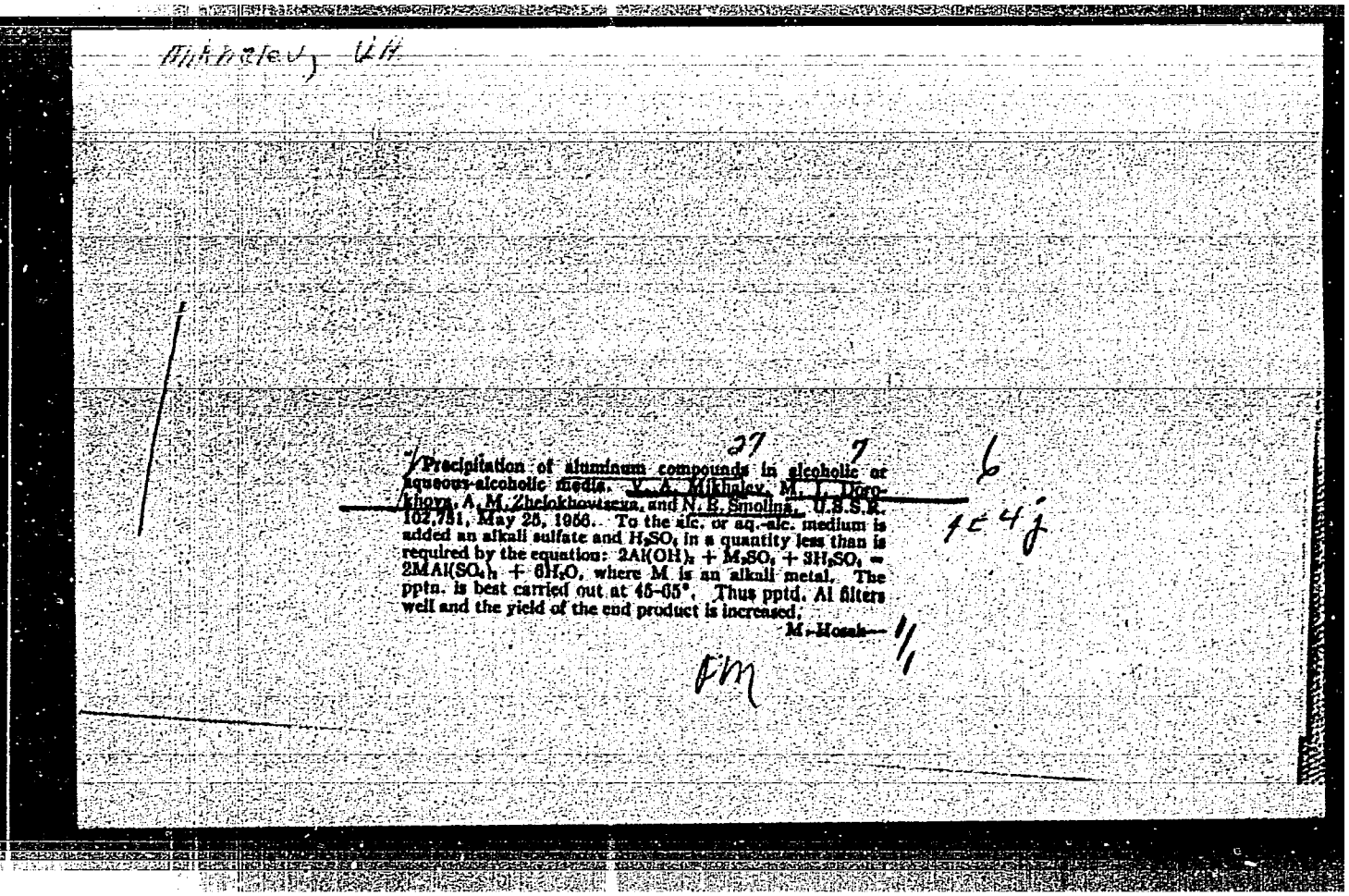
"Synthesis of certain Sulfide and Sulfoxide Containing Either the Pyridine or Thiazole Rings." Sand Chem Sci, Inst of Pharmacology, Experimental Chemotherapy, and Chemoprophylaxis, Moscow, 195[illegible]. (KL, No 12, Mar 55)

So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)



Mikheev, V. N.

p-Nitro-α-(dichloroacetylamino)acetophenone. A. P. Arendarik, A. I. Ivanov, M. I. Dorokhova, V. A. Mikhaiev, N. P. Skoldinov, D. D. Smolin, and N. E. Sutolina. U.S.S.R. 103,015, June 25, 1956. Addn. to U.S.S.R. 96,808. 1-Hydroxy-1-(p-nitrophenyl)-2-aminoethane is treated with Cl_2CHCO_2Me and the resulting 1-hydroxy-(p-nitrophenyl)-2-dichloroacetylaminoethane oxidized to p-nitro-α-(dichloroacetylamino)acetophenone. M. Hoseh



Mikhaylov, V.A.

Precipitation of aluminum compounds in alcoholic or aqueous-alcoholic media. V. A. Mikhaylov, M. I. Dorokhova, A. M. Zhelokhovtseva, and N. E. Smolina. U.S.S.R. 102,751, May 25, 1956. To the alc. or aq.-alc. medium is added an alkali sulfate and H_2SO_4 in a quantity less than is required by the equation: $2Al(OH)_3 + M_2SO_4 + 3H_2SO_4 = 2MAl(SO_4)_2 + 6H_2O$, where M is an alkali metal. The pptn. is best carried out at 45–65°. Thus pptd. Al filters well and the yield of the end product is increased.

M. Hosak